

## Comparison between particle environment around GEO from global MHD simulation and that from LANL satellite

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Substorm injection is one of the important element of magnetospheric substorm, like auroral break up. Studying substorm injection is important to understand the physics of substorms. Also, substorm injection temporarily changes the particle environment around satellites at GEO. And dynamical variations of particle environment around GEO is one of the causes of satellite anomaly due to surface charging. We try to evaluate our magnetospheric global MHD simulation code by comparing output from global MHD code and LANL satellite particle data. Previous work has be done by Nakamura [2009]. We will examine the possibility of substorm injection prediction using global MHD simulation. Detailed comparison between simulation and observation will be shown in our presentation.

Keywords: Space Weather Forecast, Magnetosphere, Substorm, Modeling, Global MHD simulation, Geosynchronous orbit